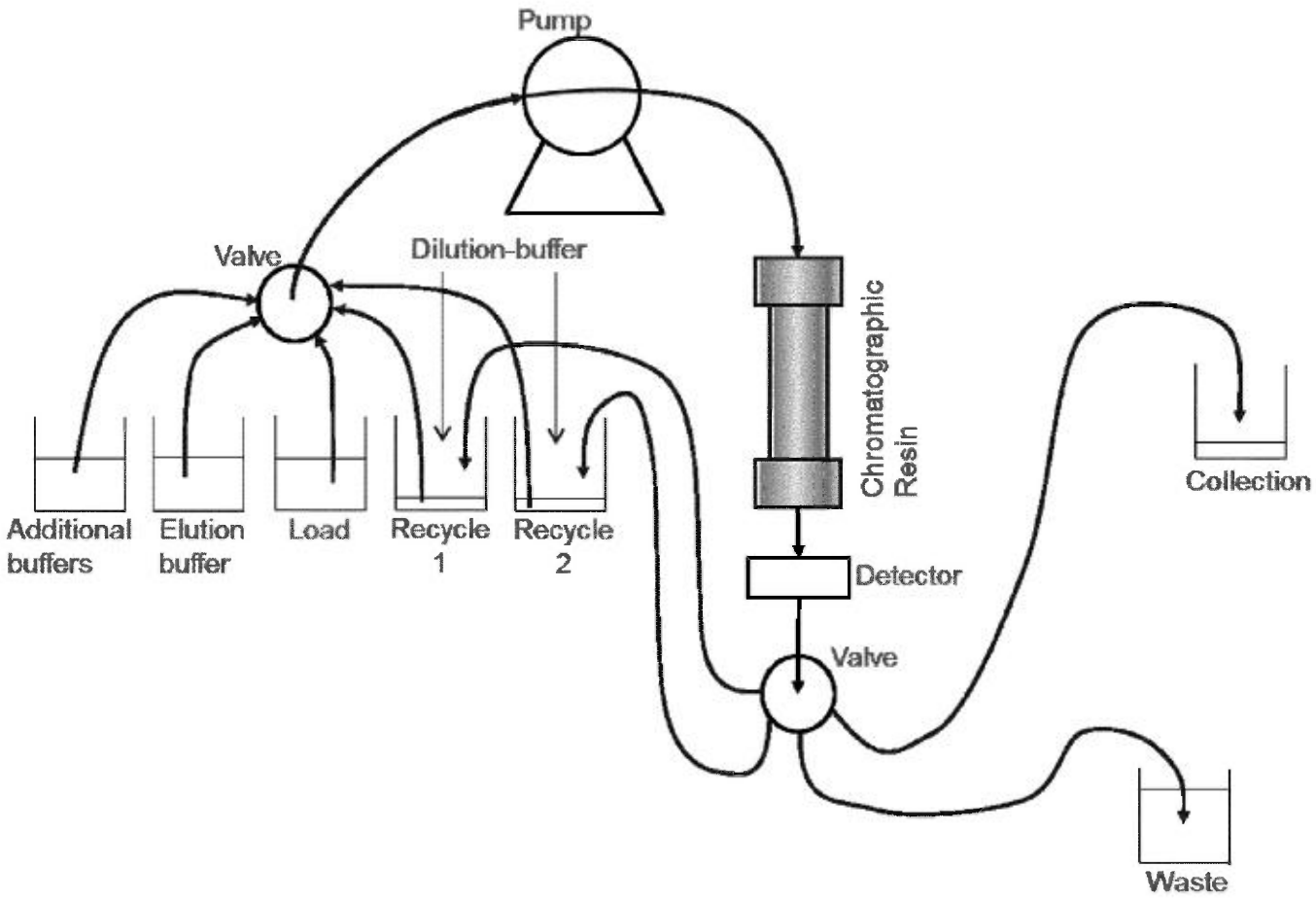
FIGURES

FIGURE 1



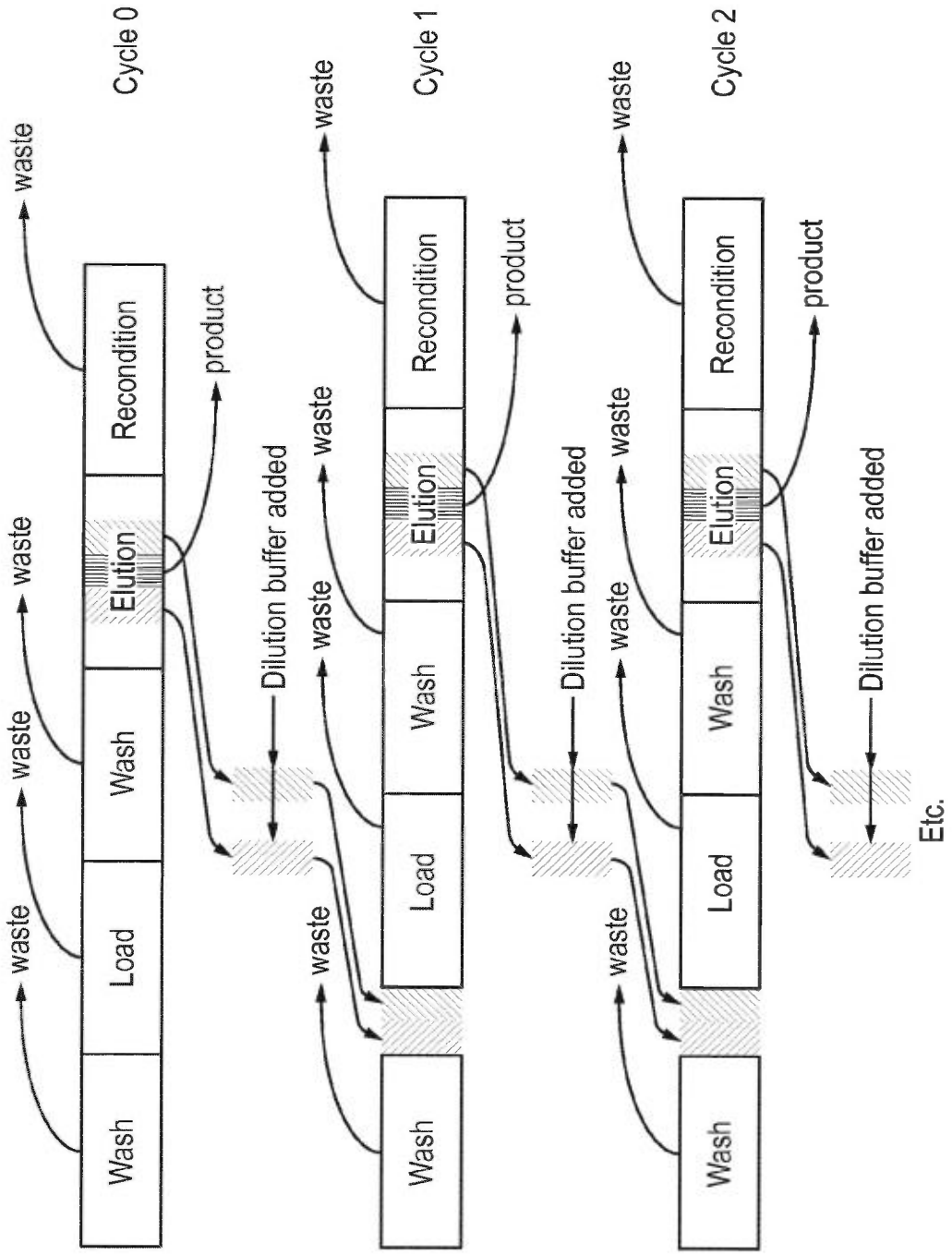

Cycle 0
Cycle 1
Cycle 2
Wash
Load
Elution
Recondition
waste
product
Dilution buffer added
Etc.

Figure 2

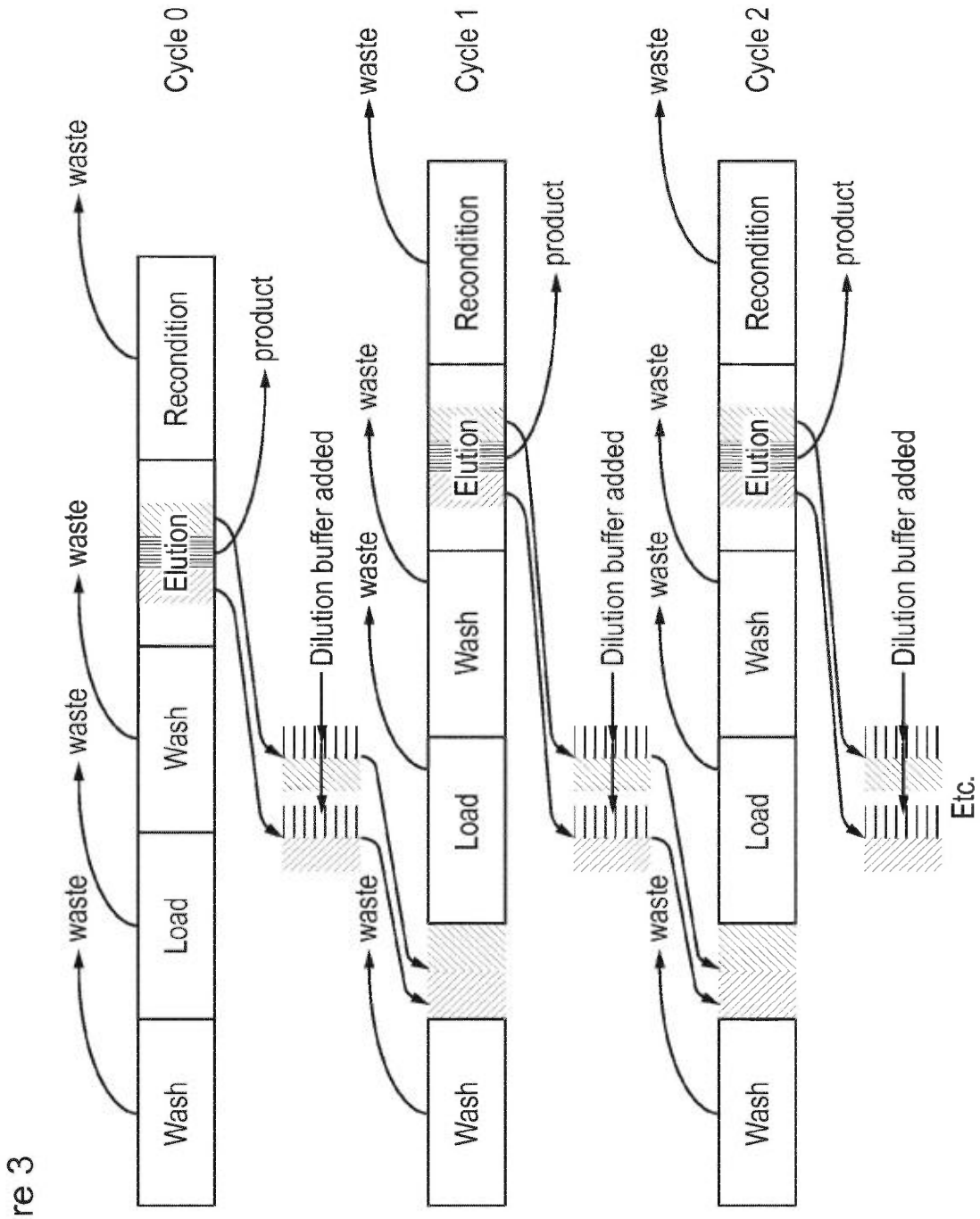

Cycle 0
Cycle 1
Cycle 2
Wash
Load
Wash
Elution
Recondition
waste
product
Dilution buffer added
Etc.

Figure 3

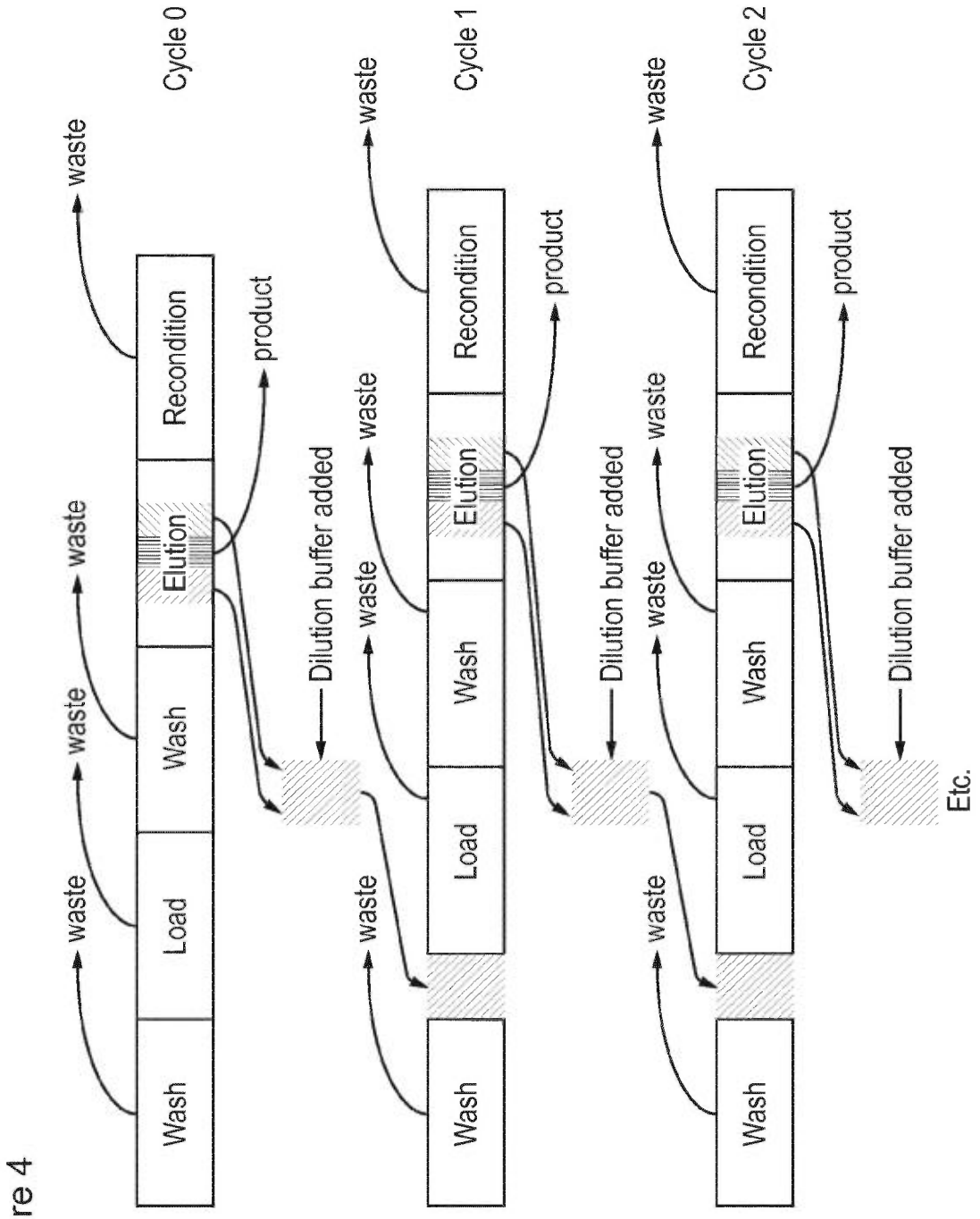

Cycle 0
Cycle 1
Cycle 2
Wash
Load
Wash
Elution
Recondition
waste
product
Dilution buffer added
Etc.

Figure 4

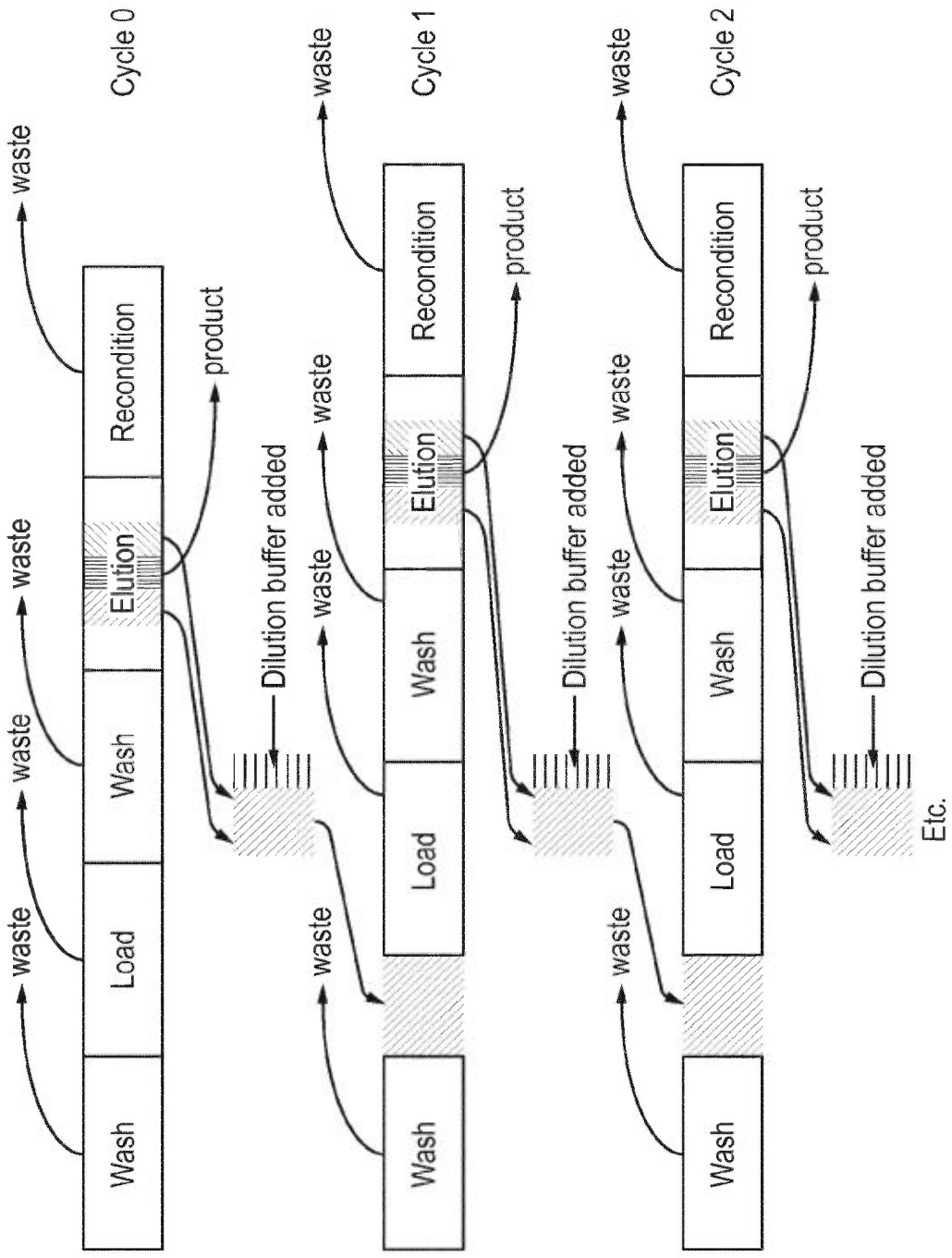

Cycle 0
Cycle 1
Cycle 2
Wash
Load
Wash
Elution
Recondition
waste
product
Dilution buffer added
Etc.

Figure 5

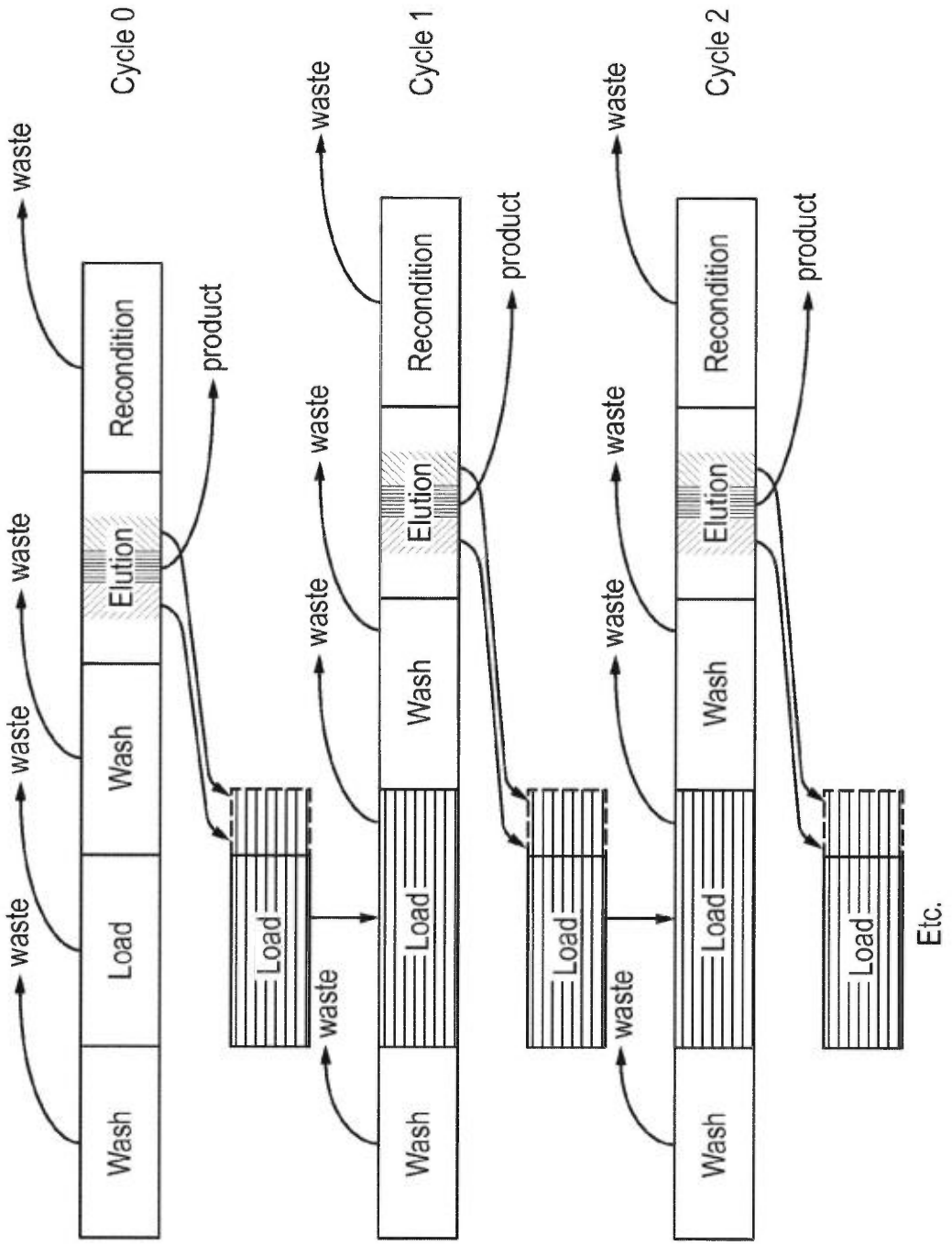

Cycle 0
Cycle 1
Cycle 2
waste
product
Recondition
Elution
Wash
Load
Etc.

Figure 6

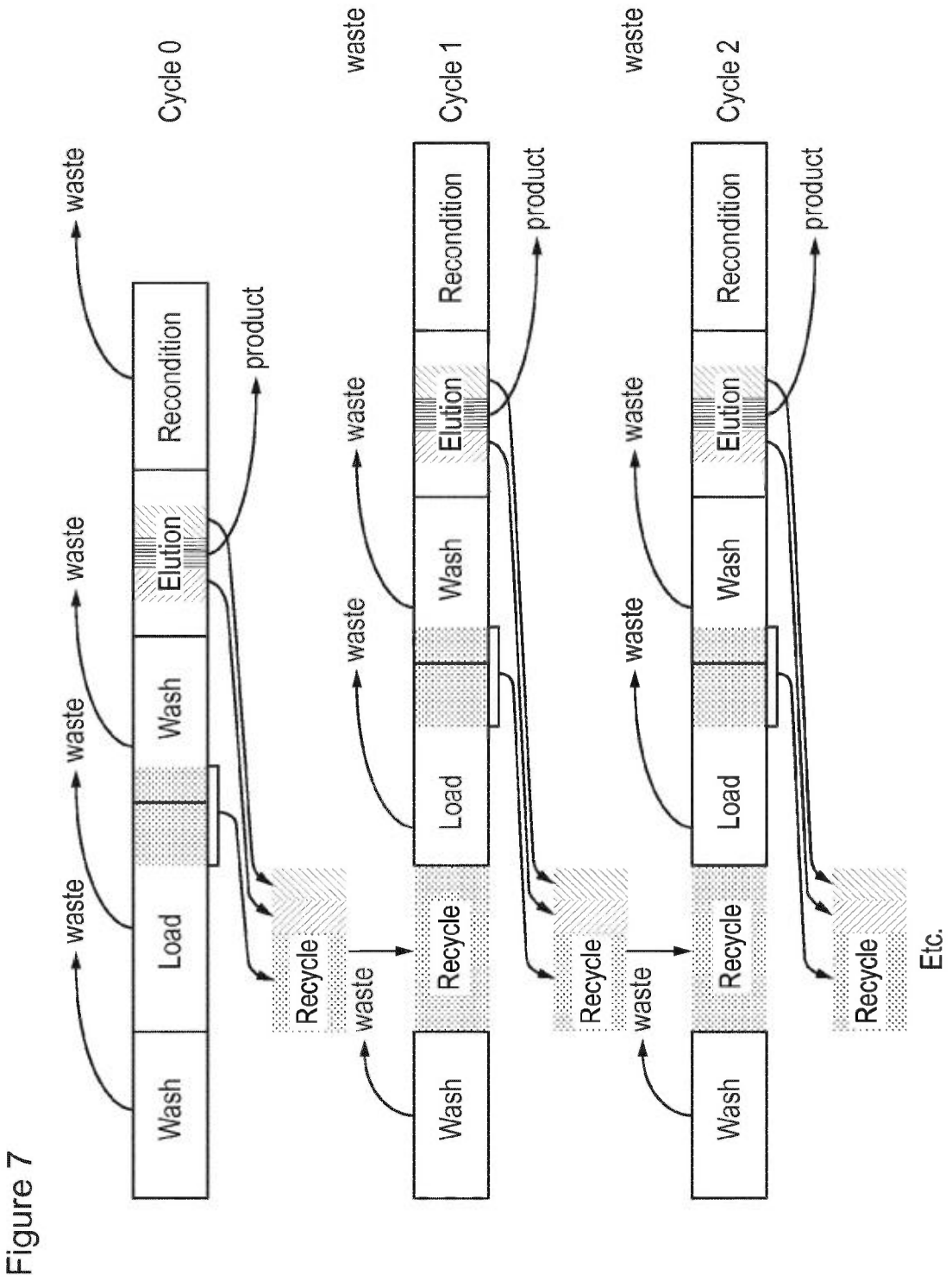

Cycle 0
Cycle 1
Cycle 2
waste
product
Recondition
Elution
Wash
Load
Recycle
Etc.

Figure 7

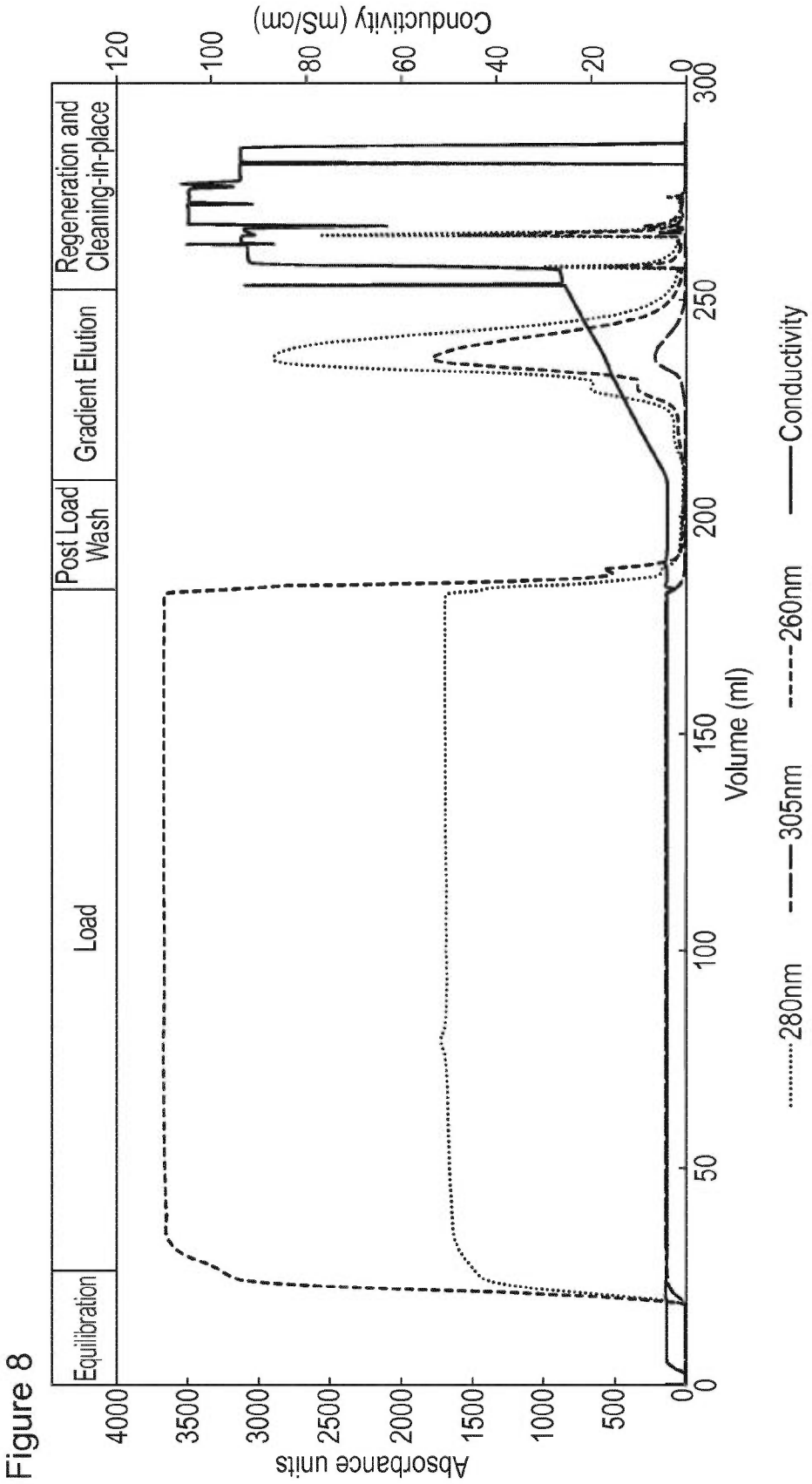

Absorbance units
4000
3500
3000
2500
2000
1500
1000
500
0
Conductivity (mS/cm)
120
100
80
60
40
20
0
Volume (ml)
0
50
100
150
200
250
300
Equilibration
Load
Post Load Wash
Gradient Elution
Regeneration and Cleaning-in-place
280nm
305nm
260nm
Conductivity

Figure 8

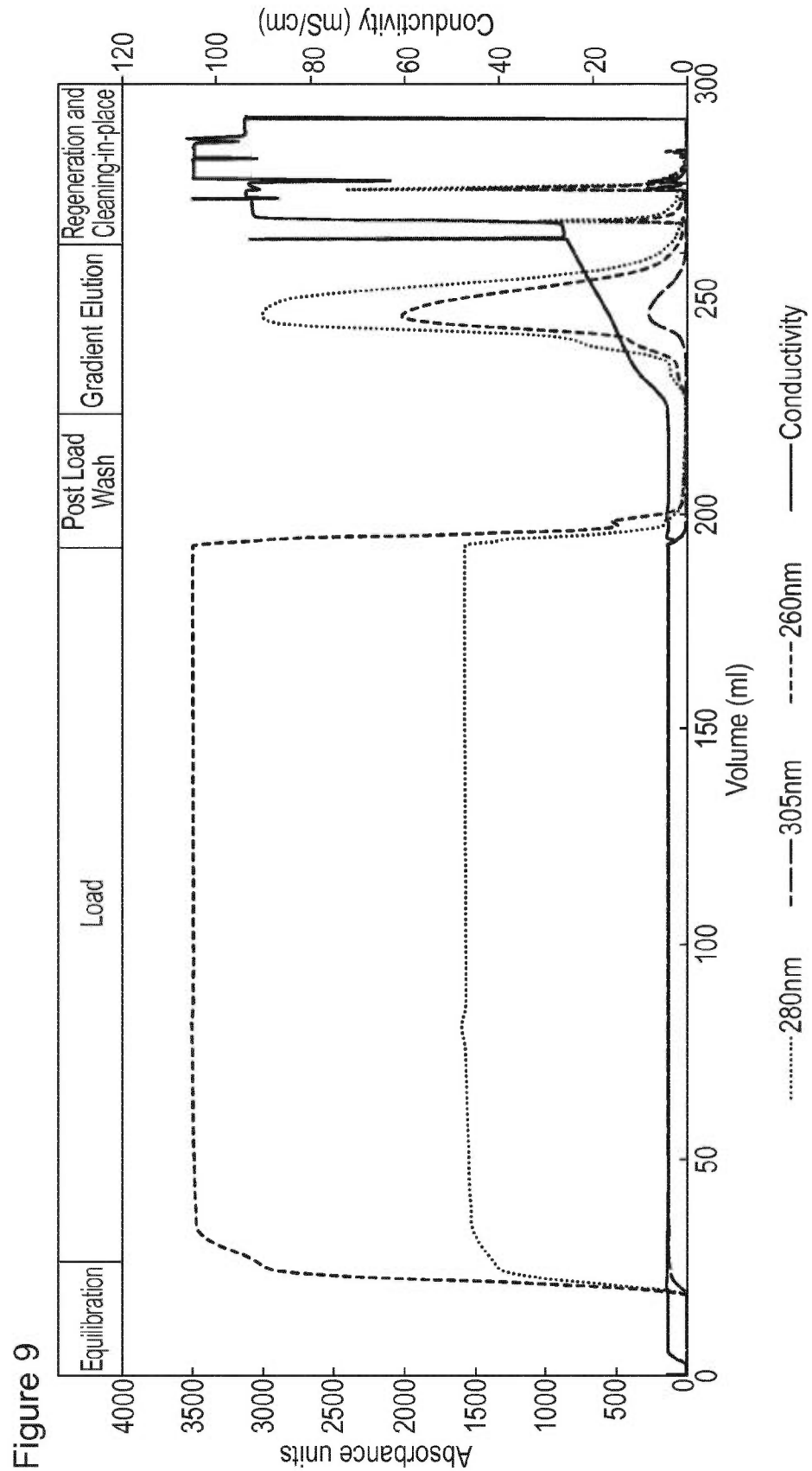

Equilibration
Load
Post Load Wash
Gradient Elution
Regeneration and Cleaning-in-place
Absorbance units
Conductivity (mS/cm)
Volume (ml)
280nm
305nm
260nm
Conductivity

Figure 9

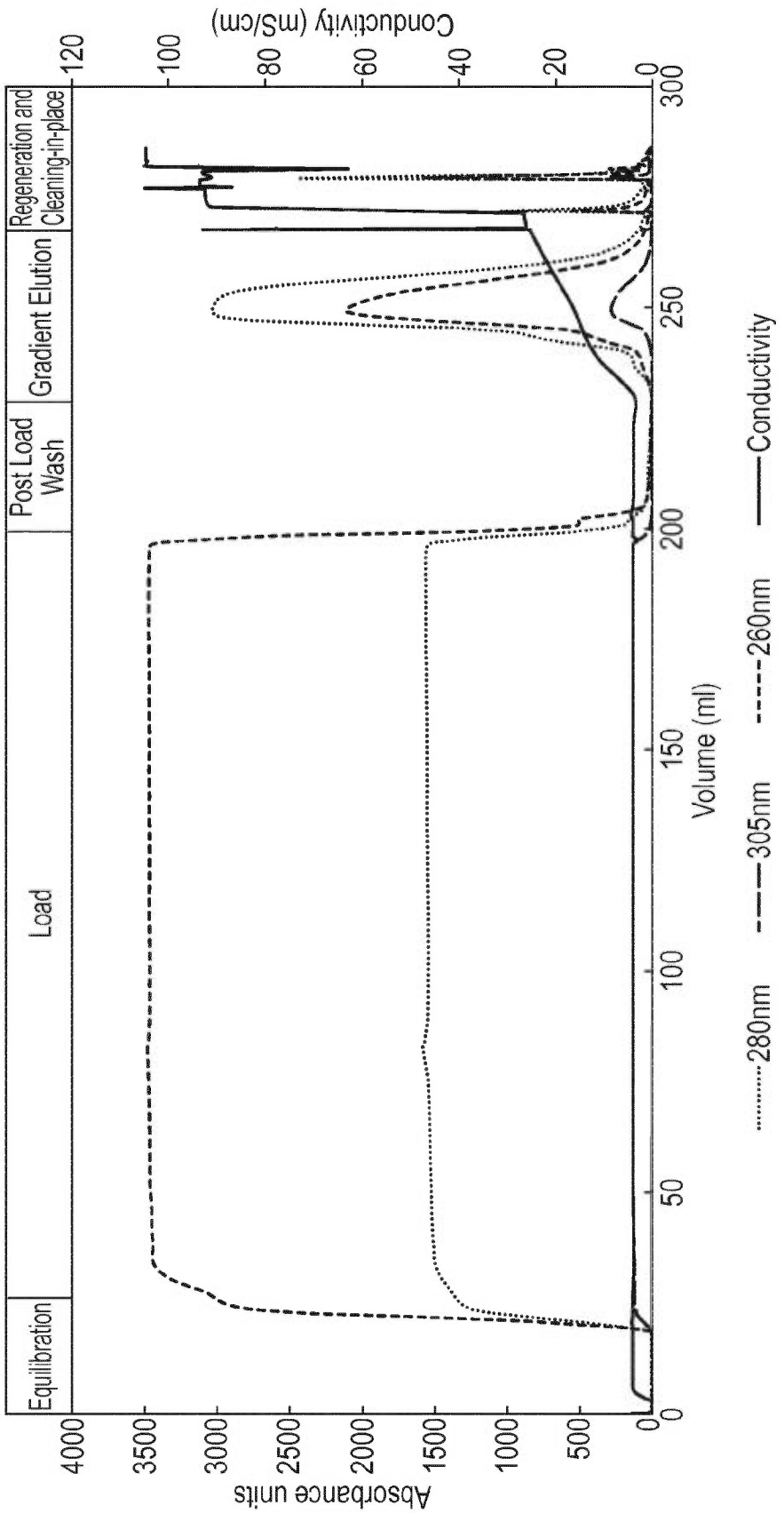

Equilibration
Load
Post Load Wash
Gradient Elution
Regeneration and Cleaning-in-place
Absorbance units
Conductivity (mS/cm)
Volume (ml)
280nm
305nm
260nm
Conductivity

Figure 10

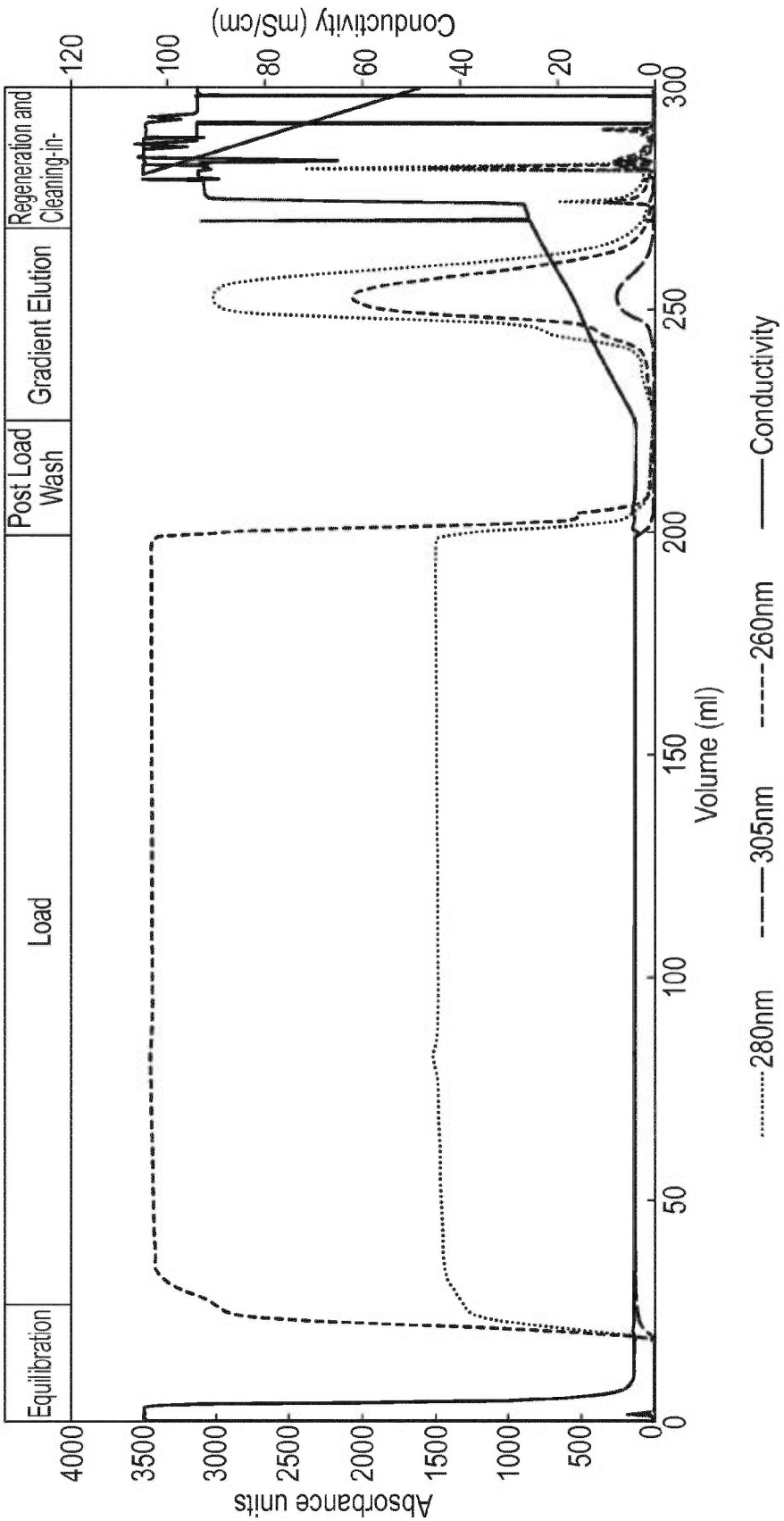

Absorbance units
4000
3500
3000
2500
2000
1500
1000
500
0
Conductivity (mS/cm)
120
100
80
60
40
20
0
Volume (ml)
0
50
100
150
200
250
300
Equilibration
Load
Post Load Wash
Gradient Elution
Regeneration and Cleaning-in-
280nm
305nm
260nm
Conductivity

Figure 11

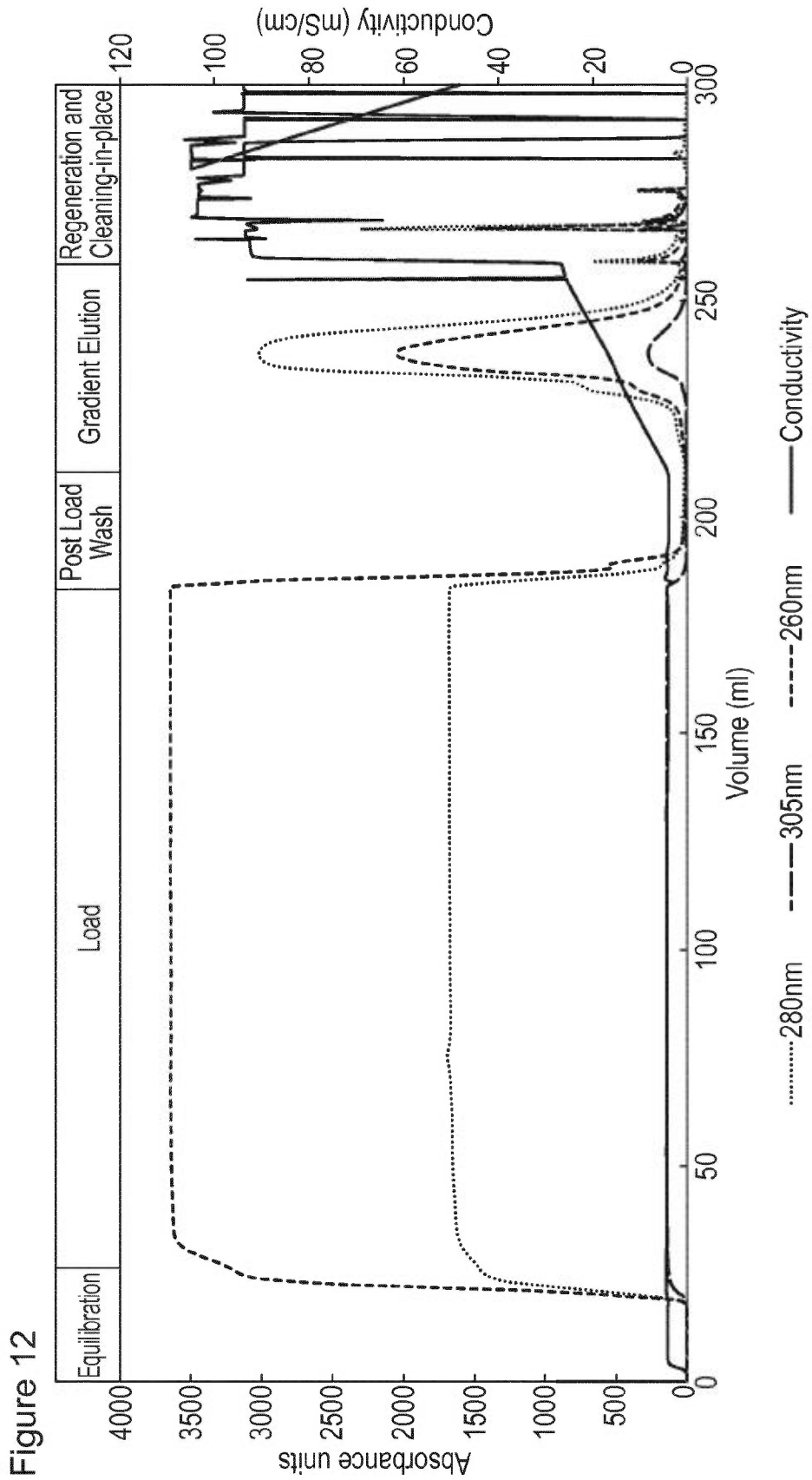

Absorbance units
4000
3500
3000
2500
2000
1500
1000
500
0
Conductivity (mS/cm)
120
100
80
60
40
20
0
300
250
200
150
100
50
0
Volume (ml)
Equilibration
Load
Post Load Wash
Gradient Elution
Regeneration and Cleaning-in-place
280nm
305nm
260nm
Conductivity

Figure 12

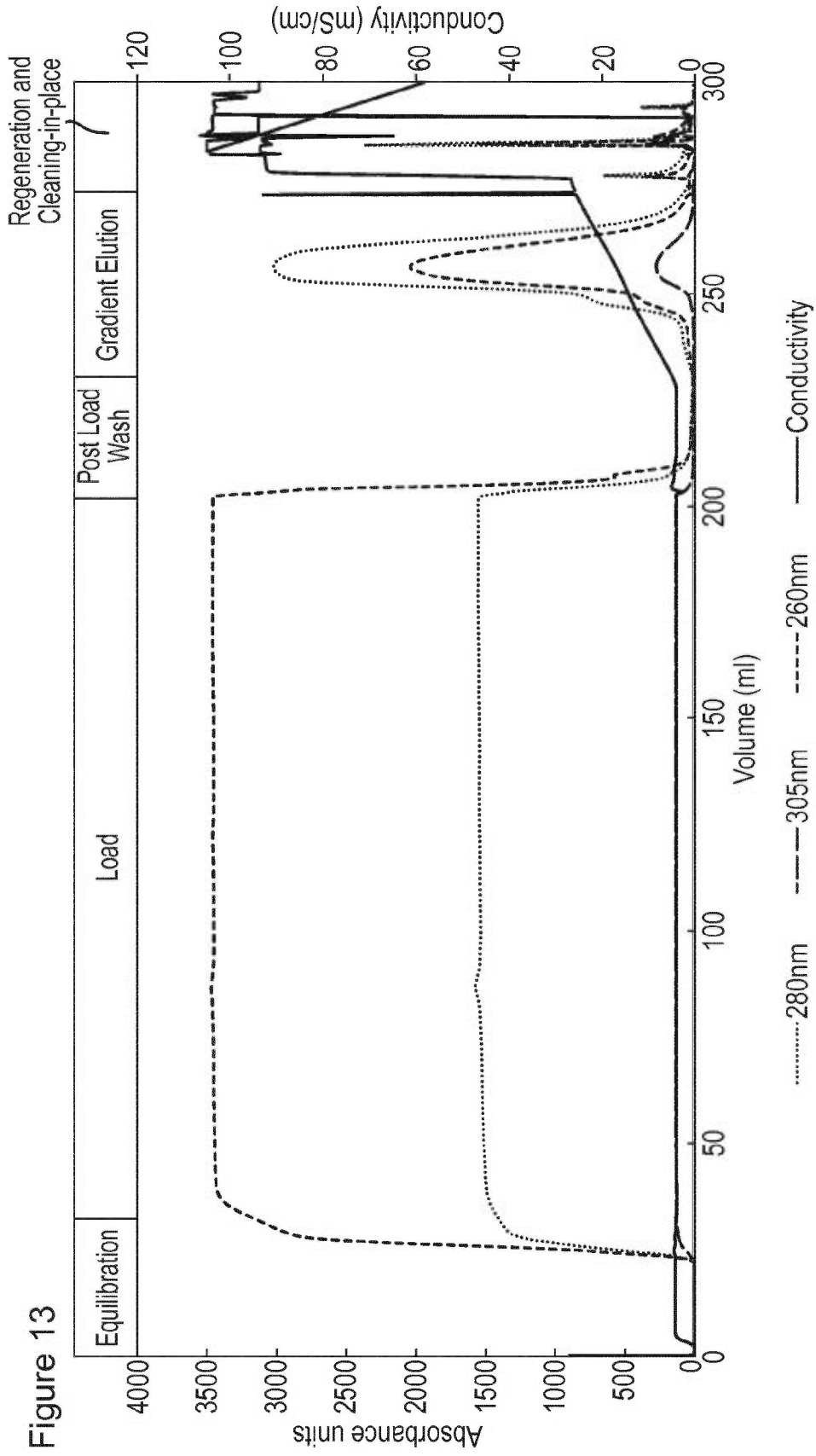

Absorbance units
4000
3500
3000
2500
2000
1500
1000
500
0
Conductivity (mS/cm)
120
100
80
60
40
20
0
300
250
200
150
100
50
0
Volume (ml)
Equilibration
Load
Post Load Wash
Gradient Elution
Regeneration and Cleaning-in-place
280nm
305nm
260nm
Conductivity

Figure 13

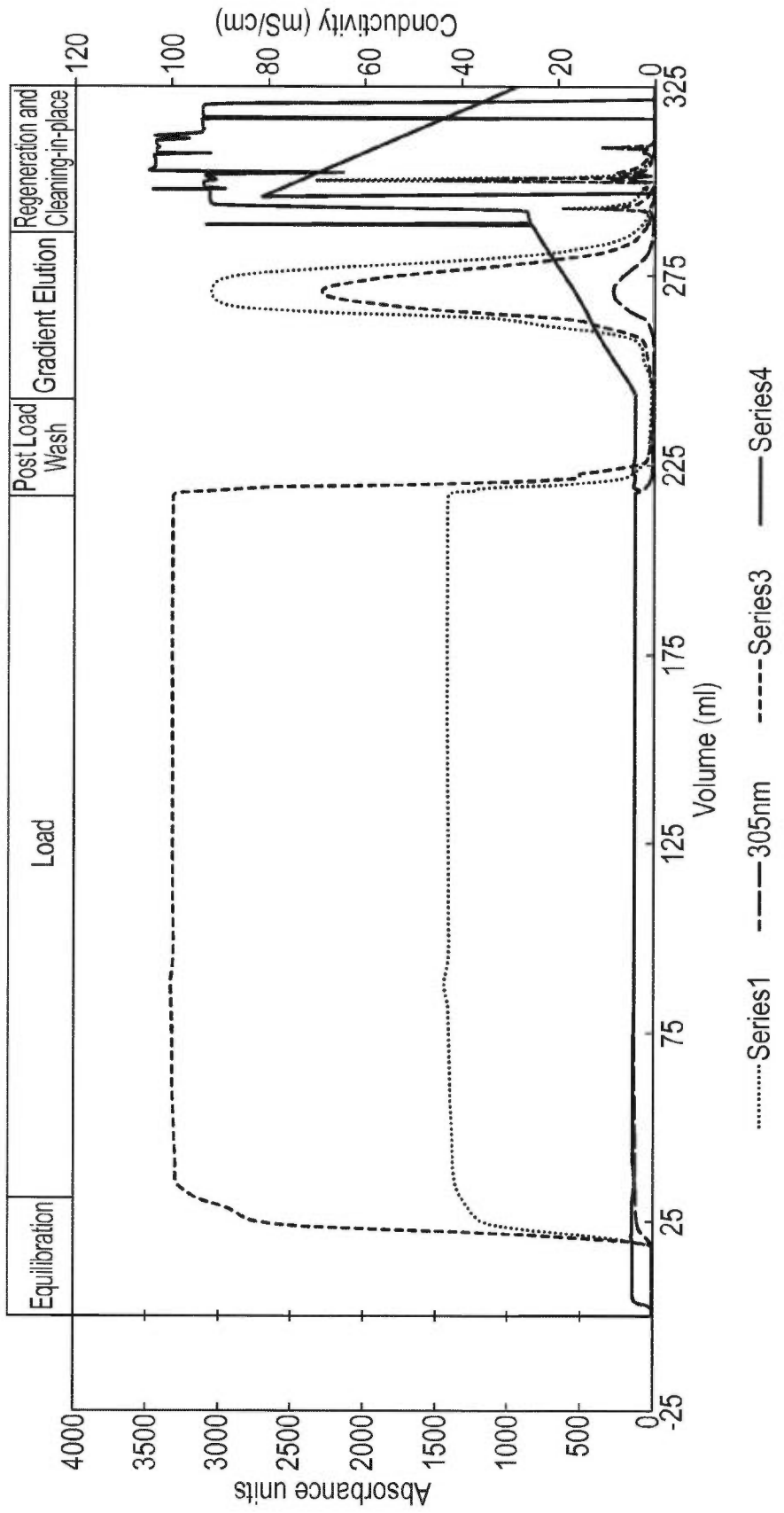

Absorbance units
4000
3500
3000
2500
2000
1500
1000
500
0
-25
Conductivity (mS/cm)
120
100
80
60
40
20
0
325
275
225
175
125
75
25
Volume (ml)
Equilibration
Load
Post Load Wash
Gradient Elution
Regeneration and Cleaning-in-place
Series1
305nm
Series3
Series4

Figure 14

Figure 15

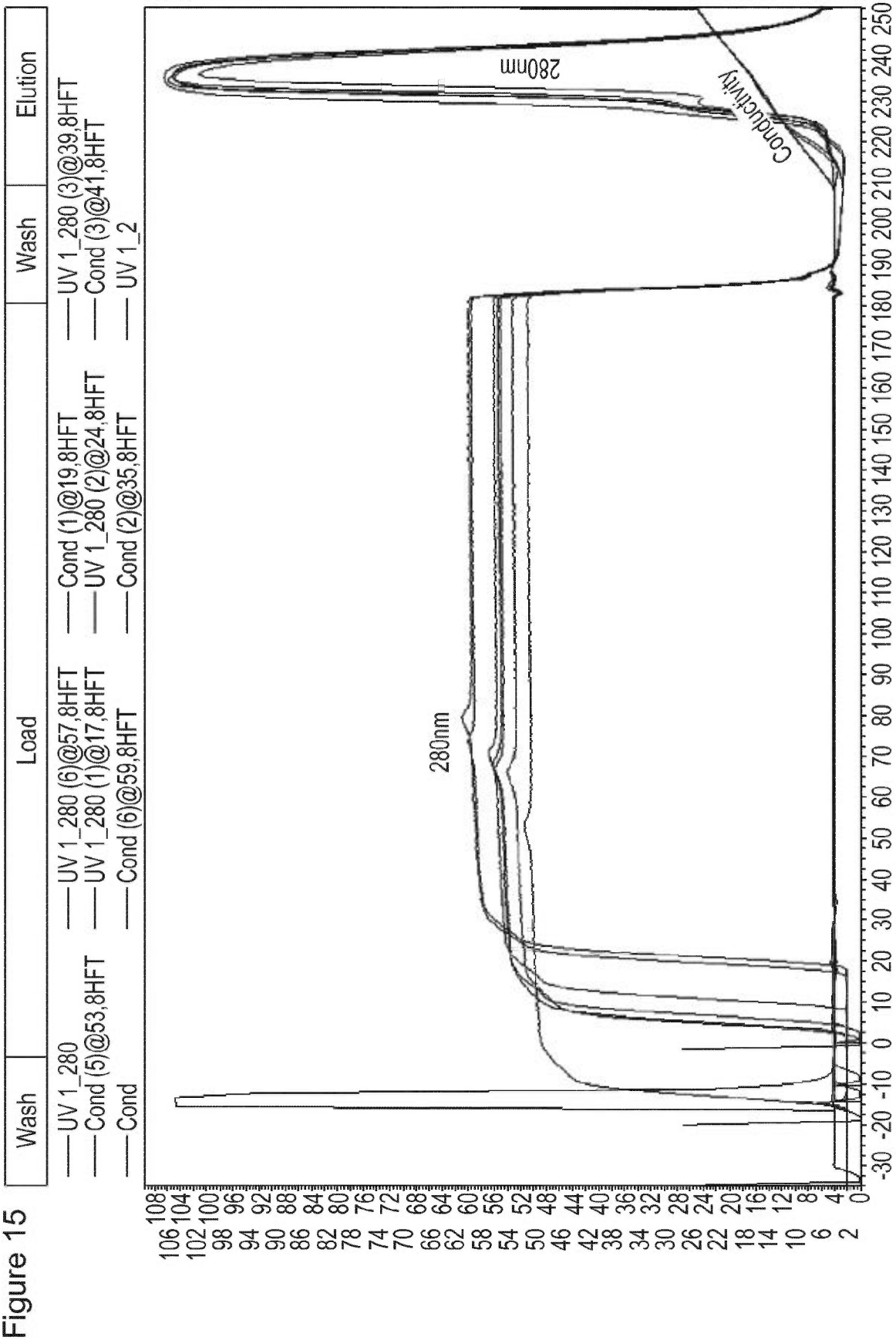

Wash
Load
Wash
Elution
UV 1_280
Cond (5)@53,8HFT
Cond
UV 1_280 (6)@57,8HFT
UV 1_280 (1)@17,8HFT
Cond (6)@59,8HFT
Cond (1)@19,8HFT
UV 1_280 (2)@24,8HFT
Cond (2)@35,8HFT
UV 1_280 (3)@39,8HFT
Cond (3)@41,8HFT
UV 1_2
280nm
280nm
Conductivity

FIGURE 16

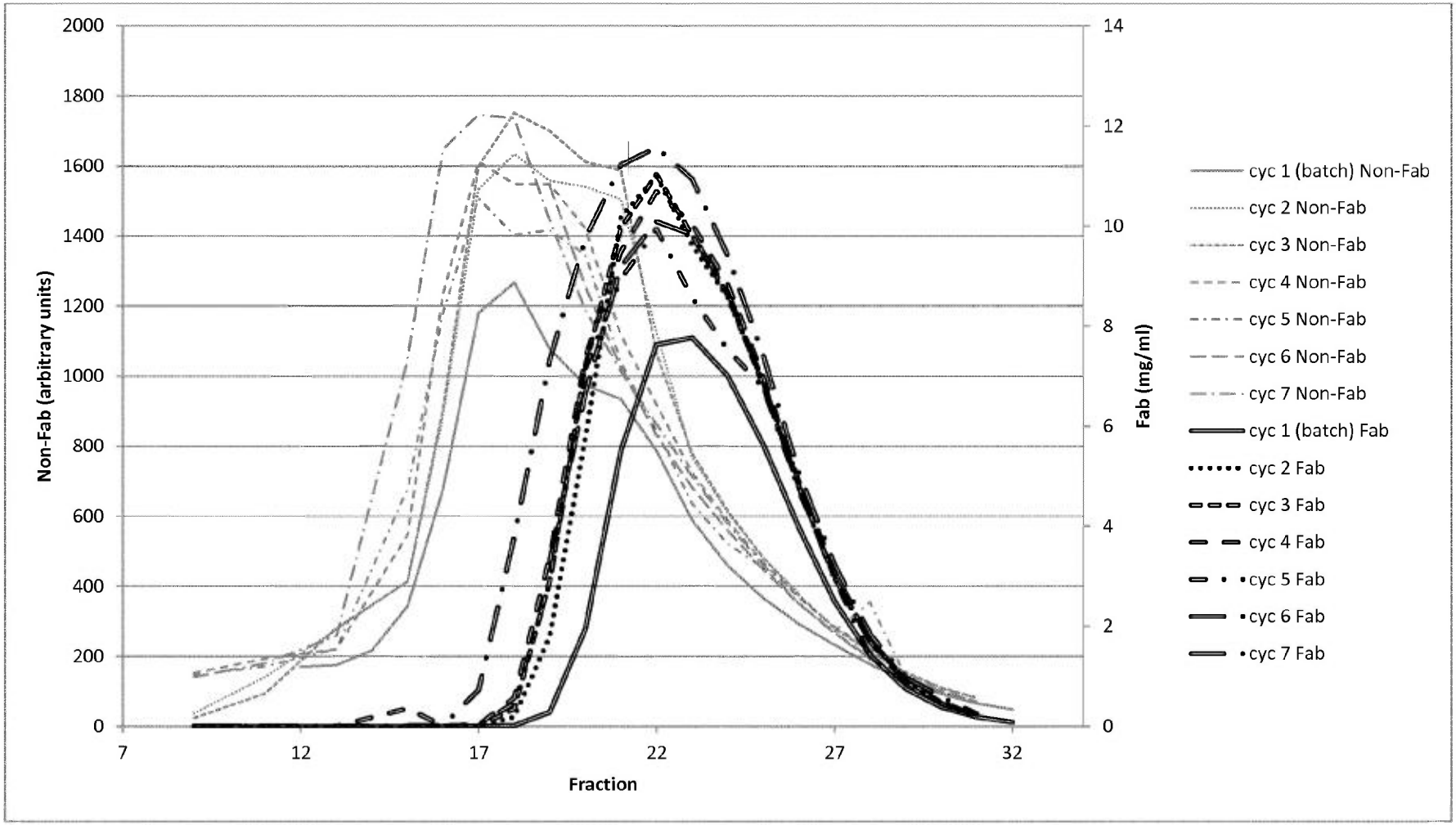

Non-Fab (arbitrary units)
Fab (mg/ml)
Fraction
2000
1800
1600
1400
1200
1000
800
600
400
200
0
14
12
10
8
6
4
2
0
7
12
17
22
27
32
cyc 1 (batch) Non-Fab
cyc 2 Non-Fab
cyc 3 Non-Fab
cyc 4 Non-Fab
cyc 5 Non-Fab
cyc 6 Non-Fab
cyc 7 Non-Fab
cyc 1 (batch) Fab
cyc 2 Fab
cyc 3 Fab
cyc 4 Fab
cyc 5 Fab
cyc 6 Fab
cyc 7 Fab

FIGURE 17

	Retained pool (Early Cation exchange peak)		Retained pool (Late Cation Exchange Peak of interest)	
Cycle	Non-Fab (arbitrary units)	Fab (mg)	Non-Fab (arbitrary units)	Fab (mg)
1	6083.10	2.26	2404.45	29.63
2	8023.39	7.78	3067.92	36.24
3	8380.01	10.50	3091.54	36.39
4	8476.27	11.73	2993.96	37.17
5	2525.75	10.53	2899.82	33.48
6	2800.57	9.97	2813.99	36.39
7*	8202.97	11.89	2871.66	39.72

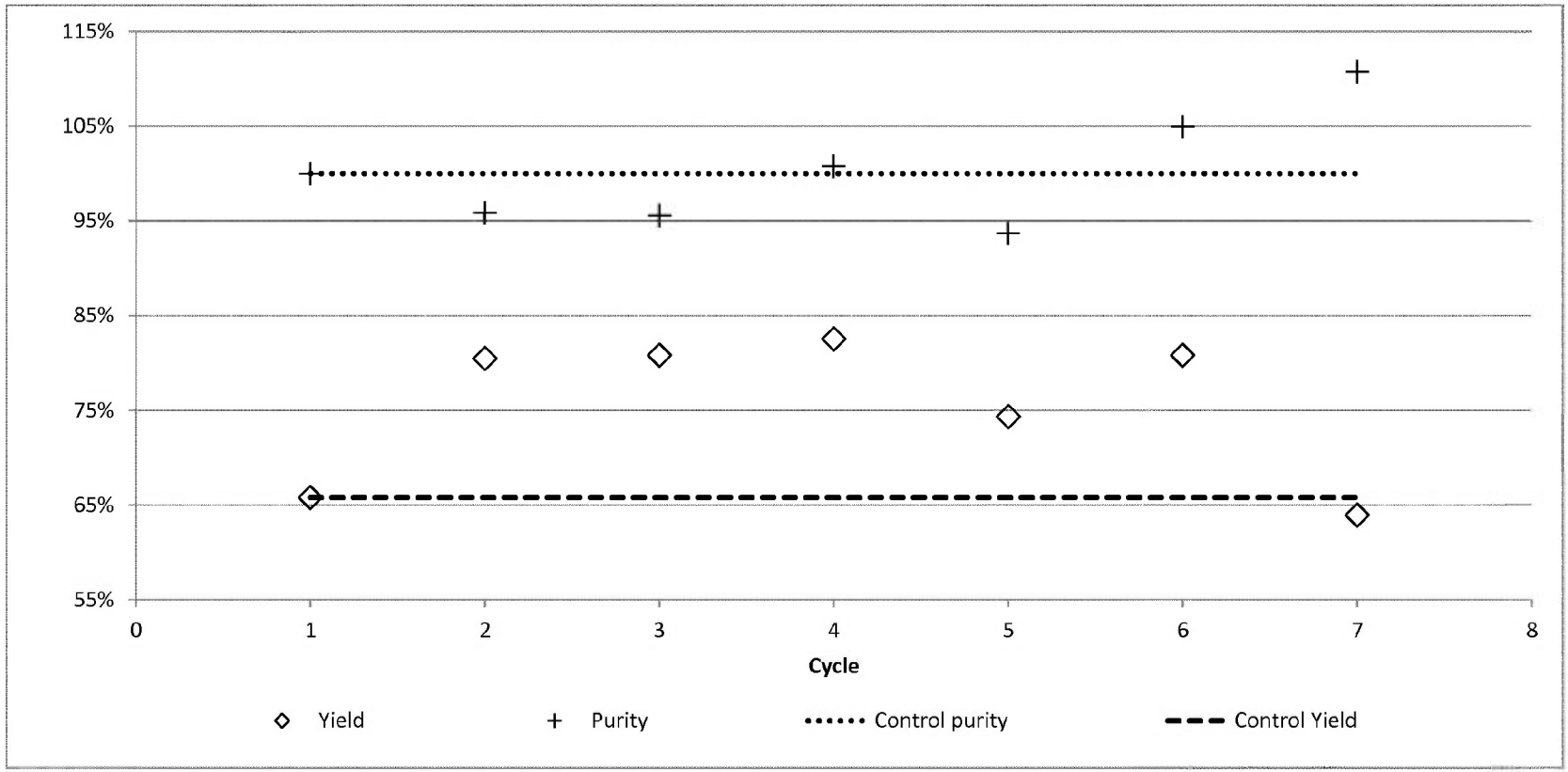
FIGURE 18

	Retained pool (Fab peak of interest)	
Cycle	Non-Fab	Fab (mg)
1	100%	100%
2	128%	122%
3	129%	123%
4	125%	125%
5	121%	113%
6	117%	123%
7*	119%	134%

FIGURE 19

	Retained pool (Fab peak of interest)	
Cycles	Non-Fab	Fab (mg)
1	100%	100%
2	104%	96%
3	105%	96%
4	99%	101%
5	107%	94%
6	95%	105%
7*	89%	112%

FIGURE 20


115%
105%
95%
85%
75%
65%
55%
0
1
2
3
4
5
6
7
8
Cycle
Yield
Purity
Control purity
Control Yield